Code guidance from the Department of Labor and Industries

Department of LABOR AND INDUSTRIES

ELECTRICAL CURRENTS

Office of the Chief Electrical Inspector

Ron Fuller, Chief Electrical Inspector **Vol. 4 No. 11** **November 2001**

● Stakeholder Meetings for 2001

The department is again offering 4 Continuing Education Units (CEU's) for those who attend the meetings and successfully complete and score at least 70% on a take-home examination.

Stakeholder Meeting Schedule

Nov. 6, 2001 7-9 PM	Best Inn 901 Berry Road, **Ellensburg**
Nov. 7, 2001 7-9 PM	Labor and Industries Office 3001 W. Broadway Ave., **Moses Lake**
Nov. 8, 2001 7-9 PM	Labor & Industries Office 415 W. Wishkah, Suite 1B, **Aberdeen**
Nov. 15, 2001 7-9 PM	Wash. Mutual Building (Conf. Room) 500 Pacific Ave., **Bremerton**
Nov. 15, 2001 7-9 PM	Yakima School District Offices 104 N 4th Ave, **Yakima**
Nov. 19, 2001 7-9 PM	Douglas County PUD 1151 Valley Mall Pkwy, **E. Wenatchee**
Nov. 20, 2001 7-9 PM	Cowlitz County PUD Building 961 12th, **Longview**
Nov. 20, 2001 7-9 PM	Okanogan PUD 1331 2nd Ave North, **Omak**
Nov. 26, 2001 6:30-9 PM	Benton County PUD 2721 West 10th, **Kennewick**
Nov. 27, 2001 6:30-9 PM	Walla Walla College 306 S.W. 4th Rm. #105, **College Place**
Nov. 28, 2001 7-9 PM	Work Source Building 107 W. Jewett Blvd., **White Salmon**
Nov. 29, 2001 7-9 PM	Clark Public Utilities, Community Room 1200 Fort Vancouver Way, **Vancouver**
Dec. 6, 2001 6:30-9 PM	Port Angeles City Council Chambers 321 E. 5th Street, **Port Angeles**

● Changes In Administration Of Electrician and Administrator Examinations

The department has signed a contract with ***LaserGrade*** for computer-based delivery of our electrician and electrical administrator examinations. They have 17 public testing centers in Washington State and over 800 centers nationwide and overseas. Exam candidates will be able to schedule their examinations during regular business hours Monday through Saturday, 52 weeks a year. Results are reported to the candidate immediately upon completion of the examination. Fees are to be based on the length of time reserved for the examination resulting in significant savings for most candidates. We expect to have this option available by February 2002. Currently, candidates may choose to continue with paper-and-pencil examinations from ***Experior***.

● Arc-Fault Circuit-Interrupter (AFCI) Requirements for January 1, 2002

Arc-fault protection of dwelling unit bedroom branch circuits supplying 15 and 20 ampere receptacle outlets will be required by 1999 NEC 210-12(b), beginning on January 1, 2002. The department has determined that AFCI receptacles cannot protect the branch circuit as required in this code article. Therefore, AFCI circuit breakers will be required where arc-fault protection is required.

● Electrical Permit Fees

We are reevaluating our past business practices in the application of the electrical inspection fees in WAC 296-46A-910. Although there is no basis in statute or rule, past department practice has sometimes allowed the electrical contractor to include thermostats, low voltage security and fire alarm systems, signs and outline lighting systems, and etc. in the permit without added charge. Electrical contractor stakeholders have brought it to our attention that this gives competing electrical contractors an unfair advantage by adding limited energy or sign work to a project at no charge.

We have consulted with internal audit and legal staff about this issue and have determined that allowing this practice is a violation of the statute and rules. We have to charge all permit purchasers for each line item in our fee schedule. However, we will not carry out any changes in permit sales until our field services staff and electrical inspectors have received appropriate training. Implementation will be February 1, 2002.

● New Electrical Inspection Program Policies

On October 25, 2001 the Electrical Board approved four new Electrical Inspection Program Policies. These policies have an effective date of October 26, 2001. The full text versions of these policies are available on our website.

- **Policy 01-05** defines a "public area" or "square". (RCW 19.28.091(2)(a) grants a utility exemption for lighting of streets, alleys, ways, or public areas or squares.)
- **Policy 01-06** allows multipoint grounding under limited conditions for circuits with a voltage in excess of 1 KV.
- **Policy 01-07** clarifies the definition of a household-type appliance.
- **Policy 01-08** requires that requests for informal hearings and proceedings from the Electrical Board be submitted at least 30 days prior to the regularly scheduled board meeting.

● Package Spa and Hot Tub Installations Outdoors

Since we have recently had numerous questions related to this topic, the following is a reprint of an *ELECTRICAL CURRENTS* article published in July 1999. NEC 680-40 requires that outdoor spas and hot tubs comply with the provisions of Part A and B of Article 680. Part A of NEC 680 applies to all pools, outdoor spas, and outdoor hot tubs. Part B, however, applies only to pools, outdoor spas, and outdoor hot tubs that are permanently installed.

NEC 680-4 defines permanently installed swimming, wading, or therapeutic pool as: Those that are constructed in the ground or partially in the ground, and all others capable of holding water in a depth greater than 42 in. (1.07m). This definition would not include most packaged spas or hot tubs that are set on a slab or patio since they are not in the ground and are typically shallower than 42 inches.

Further clarification is needed on the wiring methods for a feeder that supplies a panelboard installed at a separate building for a pool, spa, or hot tub. The main text of NEC 680-25 (d) requires that the feeder conductors and an insulated equipment grounding conductor shall be installed in rigid metal conduit, intermediate metal conduit, liquidtight flexible nonmetallic conduit, or rigid non metallic conduit and allows the use of EMT where installed on or in the building. NEC 680-25 (d) (2) allows: *"A panelboard at a separate building shall be permitted to supply swimming pool equipment if the feeder meets the* ***requirements for grounding*** *in Section 250-32."* Subsection (d)(2) may allow the feeder to be regrounded at the separate building thus eliminating the need for the insulated equipment grounding conductor but does not exclude the requirement that the feeder conductors are installed in conduit. When the neutral conductor of the feeder is used to ground the panelboard at the separate building it is equally important to protect the neutral as it is to protect a separate equipment grounding conductor.

● Governor's Award Presented To The Electrical Licensing Team

The electrical licensing group received the Governor's award for their improvements to streamline the electrical licensing and certification renewal process. The processes the department had in place were inefficient and forms were outdated and confusing, causing errors and delays. A team tackled the task of streamlining the renewal process and redesigning the forms. This improved system has drastically reduced mistakes on submitted forms and reduced phone calls and delays for both customers and staff. The team also eliminated the requirement for notarized signatures on 80% of the forms, saving time for customers and staff. These changes have reduced the renewal backlog from 13 weeks to 3-5 days.

● Code Question of the Month

This month's Code Question: Disregarding any exceptions, cable markings on Power-Limited Fire Alarm (PLFA) cables shall comply with which of the following? A) No voltage marking required, B) No voltage marking permitted, C) 300V marking, D) 600V marking.

Last month's Code Question: You run a 20-amp circuit using #4 AWG copper conductors to supply parking lot lighting. The conductor size is increased to prevent voltage drop. What size copper conductor is required for equipment grounding? **The answer is: D) #4 AWG. [NEC 250-122(b)]**